

MARCH - 1967

VOLUME 17 - - No. 1

*Canadian
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JOURNAL

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Subscriptions and change of address should be mailed to Canadian Home Economics Association, National Office, 151 Slater St., Ottawa 4.

Subscription rates: \$2.50 per year or 65 cents per single copy.

Application for membership in the Association should be sent to National Office. Membership fee is \$15.00 due May 1st.



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Published Quarterly by
CANADIAN HOME ECONOMICS ASSOCIATION

Printed by
The Public Press Limited, Winnipeg 21, Manitoba.

Authorized as second-class mail, Post Office Department, Ottawa,
and for payment of postage in cash.



A Message from the President

In the interval since the December issue of the C.H.E. Journal was written, the Centennial Year has arrived. What is your Centennial project?

Perhaps it is to sell as many copies of the Laura Secord Canadian Cookbook as possible. The anecdotes in this book should appeal to members in all parts of Canada. It makes a good souvenir to send to friends in other parts of the world. Readers may find a long lost recipe. The third English printing is already being discussed. The first French printing is now available. Profits will increase the Scholarship fund.

Affiliated groups and individuals who would like a little bit of Canada to be in other countries could write to the vice-president, Mrs. Emmie Oddie. The Canadian Department of External Aid has built and equipped (with major appliances) four home economics rooms in the Caribbean. They cannot provide the smaller dishes and utensils that are necessary. Could you take part in a "shower" to make these rooms more usable?

The membership fee will become fifteen dollars at the beginning of the fiscal year. Despite this increase, I hope that you will make it a project to interest at least one home economics graduate in membership.

The annual reports may show other projects undertaken to celebrate Canada's one hundredth birthday. May I wish to all, the success that the H.E.I.B.'s have had with the Cookbook.

Creativity—A Way of Life

by NORMA H. COMPTON, Ph.D.

Head, Dept. of Clothing and Textiles, College of
Family Life, Utah State University

In recent years the attention of educators, scientists, and others has turned toward creativity and relationships have been drawn between its operation in the sciences and in the arts. This view of science and art as different expressions of one human creative capacity was assumed by Aristotle, Leonardo da Vinci and others. What is new today is the recognition of the urgent importance of creativity as the means for solving the many problems besieging a nation. The economic supremacy of a country may soon rest upon the creative ability of its citizens rather than upon its rich material resources. As Arnold Toynbee says, "To give a fair chance to potential creativity is a matter of life and death for any society."

What Is Creativity?

Creativity may be defined as the imaginative re-combination of known elements into something new. This new vision, this search for structure is marked in both science and in art. Science is concerned less with facts than with relations, less with numbers than with arrangement.

In attempting to clarify the complex concept of creativity, we may attempt to illustrate it in several ways — by identifying the characteristics of people highly endowed with it or by describing the products and processes exhibiting it.

Research evidence at the present time indicates that creative thinking represents not a single ability but that a number of abilities and personal characteristics are involved. Intellectual factors appear to include sensitivity to problems, originality (production of ideas off the beaten track), fluency (production of a large number of ideas), and flexibility (variety of approaches to a problem). Motivational characteristics are also important in creativity. Highly creative people usually exhibit great dedication to their work, intellectual persistence, pleasure in manipulating ideas,

a need for recognition and achievement, a need for variety, a need for independence and a strong desire to improve upon currently accepted techniques and organization. High energy, accompanied by vast output through self-discipline, is usually found. Creative people also tend to differ from non-creative individuals in several personality characteristics. The former tend to be more concerned with autonomy, more stable, lower in sociability, more dominant and self assertive, more self-accepting, more resourceful and adventurous, and more complex as persons.

In addition to these creative characteristics, the following quotations from famous creative people in different fields indicates the importance of the emotions in the creative process:

Poetry

William Wordsworth: "Poetry is the overflow of powerful feelings — it takes its origin from *emotions* recollected in tranquility."

Dance

Mary Wigman: "My dances flow from certain states of being, different stages of vitality which release in me a varying play of the *emotions* and in themselves dictate the distinguishing atmosphere of the dances."

Painting

Picasso: "My eyes saw and my subconscious registered their vision; my hand recorded my sensations. What I want is that my picture should evoke nothing but *emotion*. The artist is a receptacle of emotions."

Mathematics

Poincare: "Those privileged unconscious phenomena, those susceptible to becoming conscious, are those which, directly or indirectly, affect most profoundly our *emotional sensibility*. The true esthetic feelings that all mathematicians know surely belong to emotional sensibility."

Keynote address presented at annual convention of Saskatchewan Home Economics Association in Saskatoon, April 14, 1966.

Measuring Creativity

The process of acquiring existing knowledge is different from the process of producing new knowledge and ideas. Since current intelligence tests do not involve the ability to create new ideas or things on one's own, tests should be extended beyond the I.Q. measurement. Both Getzels and Torrence have reported that if an I.Q. test is used to select highly creative talent, about 70% of the persons who have the highest 20% of the scores on creativity test batteries will be missed. In other words, more people with high creativity scores are missed than are identified by using current I.Q. tests to locate creative talent. Creativity testing is in its infancy as a science but many businesses are using such tests to help them find imaginative people.

Examples of Creativity Tests:

1. *Remote Associates Test.* This test consists of 30 series of words, in which the individual is asked to find a fourth word that is related to the three words listed in each series.

Example:

cookies sixteen heart _____

The answer is "sweet." Cookies are sweet; sweet is part of the word "sweetheart" and part of the phrase "sweet sixteen."

2. *Barron-Welsh Art Scale.* This test consists of 86 abstract line drawings and designs ranging from simple geometric forms to complex asymmetrical figures and patterns. The individual indicates whether he like or dislikes each drawing by circling "L" (for like) or "D" (for dislike).

Research studies with this scale have shown that creative individuals show a marked preference for complex asymmetrical designs. This finding appears to indicate the creative individual's preference for complexity of experience. Several authorities feel that this test is exceedingly promising as a forecaster of creativity.

3. *Adjective Check List by Harrison Gough.* This test is comprised of 300 adjectives and the individual is asked to check the adjectives he believes describe him. While not originally developed to measure creativity, this test

is reported to differentiate highly creative from less creative people. Creative individuals tend to check such descriptive adjectives as independent, inventive, enthusiastic, versatile, impulsive, excitable, self-demanding, worrying, thorough, sensitive, restless, preoccupied, moody. Less creative or non-creative individuals see themselves as sincere, responsible, tolerant, clear thinking, logical, dependable, life-of-the-party, polite, popular, cheerful, obedient, sociable, fashionable, practical, and organized.

4. *Allport - Vernon Lindzey Study of Values Test.* This test has also proven to be valuable in creativity assessment. Creative individuals tend to score highest on theoretical and esthetic values and lower than average on political, economic, social and religious values.
5. *High School Tests of Creativity.* Most of the tests used with high school students are group administered, use verbal stimuli and require only written responses. Flanagan's Ingenuity Test and selections from a test battery developed by Guilford are most widely used.

Evaluating Creativity

Discussions of who is creative or what products are creative are often emotionally charged. This is due to the lack of objective criteria for judging creativity, which results in subjective opinion in evaluation. In each area the most meaningful evaluation is usually made by those who have achieved status in that area. However, some of the problems facing judges of creativity revolve around such questions as: Can one make a clear distinction between creativity and craftsmanship? and Can the creativity evaluation of a product be divorced from an evaluation of the craft.

Criteria of Creativity¹

1. *Products.* A product may be valued for its novelty, its size or quantity, its breadth of application, or for its economic value in terms of dollars saved or errors prevented. Ghiselin proposed that the "measure of creative product be the extent to which it restructures

our universe of understanding." The criteria used by Stein is that a process is creative when it results in a "novel work that is accepted as tenable or useful or satisfying by a group at some point in time." Others have argued that individual as well as social creativity must be considered, i.e., the creativeness of the individual who makes something new or novel for himself, even though others unknown to him have created the same product before.

2. *Processes.* Individuals are sometimes evaluated for creativity in terms of the techniques they employ in achieving a product (i.e., motor skills such as deftness in the use of the hands, poise and co-ordination, ease of production of novel ideas). Criteria of judgment may differ in different fields. In the arts the product may overshadow all that preceded it. In other cases a performance may not be considered creative unless it yields a monetary return. In still other instances (i.e., the physical sciences) the procedures and processes employed in arriving at the conclusion or end product may be as significant as the product itself.

Whether the actual shaping of materials is an essential part of the creative act has been debatable. The Greeks were the first to devote thought to this problem. They regarded the artist's mental activity as separate and of far higher rank than the work of his hands. But during the early Renaissance, the physical making of the work of art achieved new dignity. The artist's hand was viewed as a seismographic needle recording every impulse of his brain. In more recent years, Frank Lloyd Wright said, "The mind should not only be a matter of the head (the intellect) but an affair of the heart and of the imagination and of the hand (or what we call technique). Until those three (the intellect, the heart and the hand) become one, become operative by inspiration, you do not have a true work of the mind. These three amount to the perception we call vision."²

3. *Persons.* Persons may be regarded as representatives of their creative prod-

ucts or processes. In this respect their attainment of eminence in their fields, their training and educational status, are achievements that are often used as indirect measures of their "production."

Development of Creative Expression

Hundreds of commercial organizations are putting new emphasis on creativity in training and development of their employees. Studies by Guilford have shown that the most common complaint concerning college graduates as researchers is that "while they do assigned tasks with show of mastery of techniques they have learned, they are much too helpless when called upon to solve problems where new paths are demanded." As president of the American Psychological Association, Dr. Guilford devoted his inaugural address to "education's appalling neglect of creativity." However, recent developments indicate that a more creative trend is on the way.

Creative imagination during early childhood seems to reach a peak at about four years followed by a drop about the time the child enters school for the first time. There are indications that this drop is a cultural phenomenon. An extremely peer-oriented culture emphasizing conformity to norms in behavior constitutes a block to creativity. A success-oriented culture that regards errors as fatal, considers divergency as equal to abnormality or delinquency and emphasizes security and conventional career choices does not foster creativity. An educational system emphasizing acquisition of knowledge and memorization of facts, a closely prescribed curricula, over-reliance upon textbooks and trust in authority, and the lecture method of teaching, is also a deterrent to creativity.

It has been suggested that since school administrators have a responsibility for facilitating new developments that there is a need for selecting and developing leaders who are interested in progress and are ready to take and permit new steps ahead.

Creativity in Living

The results of various testing programs indicate that creative characteristics extend beyond specific areas of professional competence. Creative architects, for example,

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differ not only in the way they practice architecture but also in the way they approach everyday problems and situations.

Recent studies in the area of consumer education have emphasized the creative function of the consumer as part of her larger role as transmitter of the culture. A study of creative aptitude showed that women averaged as much as 25% higher than men. It was concluded that man's job is often a set routine while most homemakers are free to work their imaginations far more than most husbands.

The place of creativity as a human motive may be considered in terms of Maslow's hierarchy of motives, based upon human needs. It is paramount the lower level needs be reasonably satisfied before the individual is likely to pursue the fulfillment of the next need in the hierarchy. At the base of the hierarchy are *physiological needs* followed by the *need for safety*. Using clothing as an example, until the individual has adequate clothing for physical health and safety he is unlikely to be concerned with clothing for more culturally refined purposes such as expressing his personality. The *need for belonging* and the *need for self-esteem* occupy third and fourth places in the hierarchy. This is the level at which most of our present society seems to be operating. Clothing is selected largely to win belonging in groups and to achieve self-esteem, usually through conformity to the dictates of fashion. Our mass production technology and our advertising media tend to reinforce this orientation. Perhaps we may also be reinforcing it in the schools through mass production techniques of clothing construction.

A few individuals are striving in terms of the highest needs, that of *self-actualization*, *cognitive* (curiosity) and *esthetic needs*. It is at these levels that creativity finds its expression. This should be the goal of all education.

While some creative ability is undoubtedly constitutional, creativeness is thought capable of becoming a habit that may transcend an art form and become a quality of life. The time may come when we can no longer say of a great creator that he is an artist or a chemist any more than it was possible of Leonardo da Vinci.

We may even say that "Man appears to be, at one and the same time, the partial fulfillment of a great creative dynamic in the universe and a participant in the creative process."³

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in July, 1968**

A letter from the United Kingdom members of I.F.H.E. announces the next International Congress in Bristol, England, in July (possibly July 21), 1968, the theme to be, The Family Economy at the Service of National Co-operation.

Attendance at the International Congress must be limited, Canada being allotted 100 delegates only. The C.H.E.A. members who are interested in being delegates in 1968 are requested to write,

**Canadian Home Economics Association
Burnside Building, 151 Slater Street
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Application deadline — August 1, 1967
(For further information see page 121,
December 1966, C.H.E.A. Journal.)

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Radioactivity in Foods

by P. M. BIRD

Radiation Protection Division

Department of National Health and Welfare, Ottawa, Canada

Radioactivity is found in foods from natural causes, as a result of radioactive fallout from nuclear weapons testing, or, under adverse conditions, it may be associated with food irradiation processes. Natural radioactivity refers to radioactive materials found in nature and this form of contamination has always been present in food products all over the world. Radioactive fallout and food irradiation processes are, on the other hand, man-made and of recent origin and are the subject matter of this paper.

Radioactive Fallout (Nation-wide study)

The Radiation Protection Division of the Department of National Health and Welfare has been charged with the responsibility of conducting a nation-wide study of radioactive fallout with the object of assessing the significance of this source of radiation exposure to the health of Canadians both now and in the future. To accomplish this purpose, the Division has developed a comprehensive sampling and analysis program involving air, precipitation, soil, wheat, milk and human material. The collection and analysis of such a wide variety of samples is necessary for predicting future trends because of the complex interrelationships which exist in the transfer of radioactive fallout along the food-chain into man.

A study of the results of the sampling and analysis program, for the 6-year period 1960-1965, shows that radioactivity levels in milk, wheat and precipitation, which were falling in 1960, sharply increased during 1961 and 1962 following resumption of atmospheric nuclear testing in September 1961, and reached a peak in 1963. Since 1963 these levels have shown a continuing downward trend, except for a sharp short-term increase in precipitation levels following the Chinese nuclear test of May 1965. By the end of 1965 precipitation values were down to 1960 levels, as were both the

cesium-137 and strontium-90 levels in milk. The values for strontium-90 in wheat for 1964 and 1965 show roughly a factor of 3 reduction between 1964 and 1963 and a further factor of nearly 2 between 1965 and 1964.

As would be expected, the human bone values for the 1-5 year old age group show a steady increase to 1963 and a 100% increase between 1963 and 1964. There was a further increase in 1965 but the extent of the increase was much less than was observed between 1963 and 1964; this reflects the time-lag between dietary levels and recorded bone values. In the absence of further extensive atmospheric nuclear testing, it is reasonable to expect a levelling off of strontium-90 in bone in the next year or so followed by a gradual decline similar to the gradual but steady decline being observed in the strontium-90 in milk results.

In the Canadian program milk was selected as the most suitable food product as an indicator of the total dietary contamination level because it is generally consumed in the area in which it is produced, it is a year-round food item, and it is amenable to quantitative consumption analysis. Furthermore, studies conducted in the United States and in the United Kingdom have shown a fairly constant relationship between milk and total diet levels during periods when fallout deposition rates ranged from low to high.

A market survey of individual fresh milk consumption habits of Canadians has shown that on the average males consistently drink more fresh milk than females, that peak fresh milk consumption (21-24 ounces/day) occurs between the ages of 6 months and 2 years. By adulthood consumption declines to about a third to a fifth of the peak intake. More recent data on the total consumption of milk (fresh and powdered), as yet not fully analyzed, suggest that the difference

Presented at the Pre-Convention Course "Foods Today and Tomorrow," Canadian Home Economics Association, at McGill University, July 6-8, 1966.

between children and adults may not be quite so great as this.

Table I shows the distribution of strontium-90 levels in bone by age-groups for subjects who died in 1963. The peak in young children is clearly evident and is related both to the higher milk consumption and to the fact that there is a larger requirement for calcium (and therefore strontium) during the bone formation years.

TABLE I
1963 HUMAN BONE DATA
Average Strontium-90 content

Age Group	Number of Results	Average Content pCi/gCa	Highest Single Value pCi/gCa
0- 5 mo.	40	4.32	12.70
6-11 mo.	10	7.15	10.79
12-23 mo.	17	5.70	10.63
2-4 y	23	3.80	7.26
5-9 y	22	2.62	4.56
10-19 y	27	2.17	4.75
20+y	60	1.71	3.94

Comparative Canadian, U.S. and U.K. Data

A comparison of the average cesium-137 and strontium-90 levels in milk for Canada, the U.S. and the U.K. for the years 1960-64 shows an apparent similarity, although Canadian values are consistently higher. In each country there was a three to four-fold increase in levels between 1961 and 1964. The relative concentration of cesium-137 and strontium-90 in milk indicate approximately a constant five-fold difference between them with cesium-137 showing the higher values. There is also some indication of an increasing divergence between the Canadian and U.S. data towards the end of the period. Assuming that the relationship between strontium-90 levels in milk and in the diet in Canada is similar to that in the U.S., the comparison suggests that the average *total* dietary contamination in Canada has been about 1.5 times that in the U.S. or U.K.

A comparison of the average strontium-90 concentration in human bone specimens taken from the 1-4 year old age group for the three countries shows levels to be remarkably similar. It is somewhat surprising that a more significant difference in the

human bone results has not been observed considering the implications of the higher milk levels observed in Canada.

Cesium-137 levels in man for Canada, the U.S. and the U.K. for the years 1960-1964 were also compared. In each case relatively small populations were followed throughout the period. While these may not be entirely representative of the population in each of the three countries, the data

are useful for comparing time trends. Levels increased three-fold and were strikingly similar in each country. Again the observed differences are much less than would be expected on the basis of the milk data.

Radioactive Fallout (Canadian North)

Following U.S. and Scandinavian reports of a unique food-chain cycle and significantly higher cesium-137 body burdens of residents in northern latitudes, the Radiation Protection Division enlarged its fallout program in the Canadian North. Preliminary data showed that the deposition of cesium-137 in precipitation in northern centers (Inuvik, Whitehorse, Yellowknife, Coral Harbour, Fort Churchill) was approximately half the amount recorded in the more settled parts of Canada (Montreal, Winnipeg, Calgary), during 1963-1965. Values dropped by a factor of three to almost negligible amounts in the early months of 1965. However, it is apparent that cesium-137 is efficiently retained in plant materials such as lichens. At certain times of the year these plants serve as the principal food item for caribou and reindeer. These animals in turn are hunted for food by natives of the North and this leads

to a diet containing a relatively large concentration of cesium-137.

In response to this situation, the Radiation Protection Division made arrangements for the collection of caribou and reindeer meat samples and human urine specimens throughout the North. Significantly larger amounts of cesium-137 were found in caribou and reindeer meat compared with beef obtained in Ottawa. There is also strong support for the theory that caribou or reindeer are the principal sources of cesium-137 in the human diet when urine samples of individuals on different diets are examined. A type A diet was considered to be one in which caribou or reindeer meat is consumed regularly, i.e., several times a week; type B diet is one in which caribou or reindeer is consumed occasionally, i.e., not more than once a week; and type C diet is one in which caribou or reindeer meat is rarely if ever consumed. During 1964, average levels of cesium-137 in the urine of individuals consuming types A, B, or C diets were 2.45, 1.25 and 0.5 nanocuries per litre respectively.

Because of the relatively high levels observed in this special northern study and because of the difficulty of making reliable calculations of the amount of cesium-137 that must be present in the body to produce a specified concentration in an individual urine specimen, considerable emphasis was placed on this program during 1965 and again this year. The geographic area studied was extended to include Baffin Island. Most recent results suggest that cesium-137 levels in caribou and reindeer may be somewhat higher in the "Central" and "Eastern" parts of the North than in the "Western", and that levels in the first half of the year are higher than in the second half. Results to date in 1966 are slightly higher in all regions than for the first half of 1965.

Cesium-137 levels in urine also seem to show the geographic trend to higher values in the "Central" and "Eastern" parts of the North although this would be affected by the relative numbers in each diet class in each region. Because dietary information is not too reliable it is difficult to draw conclusions about the time trend of the urinary values — some of the data suggest a downward trend while others suggest an upward trend.

During 1965 a special facility known as a "whole-body counter" came into operation in the laboratories of the Radiation Protection Division. This facility is specially designed to measure the amount of gamma-emitting radioactivity present within a living person. It is ideally suited for making rapid and accurate measurements of cesium-137 in people. Unfortunately it is located inside heavy steel shielding which is required to reduce the "background" counting rate of the highly sensitive detectors; it is therefore necessary to bring people to it rather than take it to people. Arrangements were made to conduct cesium-137 measurements on as many people as possible coming from the North to the Ottawa area. During 1965 a total of 19 such measurements were made. A difference of a factor of about 2 was observed between males and females and those who reported eating some caribou had an average level about 8 times higher than the "no caribou" eaters. Results for the "no caribou" eaters were not inconsistent with measurements made on residents of Ottawa.

This number of measurements is also too few to feel that it gives a representative picture of the situation in the North. Earlier this year a new piece of equipment became available to the Division. The equipment, a simplified version of a whole-body counter, is intended to operate without the extensive steel shielding needed for the larger system. While it is much less sensitive, it is portable and its sensitivity is sufficient for the purpose of carrying out a field study of cesium-137 in northern residents. One survey has already been conducted in the Eastern Arctic and amongst 126 Type "A" diet individuals, the average body burden for 98 males was 815 nanocuries* and for 28 females 536 nanocuries. Further surveys of this type are planned.

*nanocuries (nCi) = 10^{-9} curies

Health Significance of Fallout Data

The results obtained in these programs have been carefully evaluated following the procedures recommended by such bodies as the International Commission on Radiological Protection. Calculations show that the radiation dose rates associated with the highest body burden results found in the nation-wide study are well within recognized acceptable limits. It is concluded that

nation-wide programs to reduce potential exposure of the population from environmental contamination from world-wide fallout are not necessary now or for future levels of fallout from past testing. The dose rates associated with the highest cesium-137 body burdens found in the northern study are high enough to warrant continuing study and review although they do not justify the use of special control measures.

Food Irradiation

As mentioned at the beginning of this paper an unlikely but new potential source of radioactivity in foods is the developing food irradiation industry. Since there is every indication that this process may become a standard part of our way of life it is important that misconceptions be kept to a minimum.

When food irradiation is carried out using radioactive material as the radiation source there is a possibility that the radioactive source might become damaged and the surface of the food products contaminated with radioactive dust. This is the only way that any significant increase over the natural radioactivity content of the food product could occur as a result of food irradiation.

It is important then for you to know what precautions have been taken to prevent this contamination from occurring. Food irradiation operations in Canada are subject to two separate sets of federal regulations. The use of the radioactive source comes under the Atomic Energy Control Regulations and the use of radiation in processing the food product constitutes an "additive" under the Food and Drug Regulations.

As the principal health adviser to the Atomic Energy Control Board, the Radiation Protection Division reviews in great detail every application for a radioisotope licence in terms of health and safety of the licensee, his staff and the public. Consideration is given to such factors as the qualifications of the licensee, the facilities for safe handling of the source, the details of the source, plans for monitoring, disposal of radioactive waste, etc. Whenever appropriate, special health conditions are recommended and become part of the licensed requirements. In the case of food irradiators where very large radioactive sources are used and where the final product may be widely dispersed and is intended for human

consumption, special attention is given to the source design and the irradiation technique. A standard requirement is that the food product be monitored for radioactive contamination before leaving the plant.

The quality of the food product for human consumption is a matter of concern to the Food and Drug Directorate. Before an irradiated food product can be placed on the market the process must be approved by the Food and Drug Directorate.

Close collaboration exists between the Radiation Protection Division and the Food and Drug Directorate in dealing with these matters. Before recommending health approval for a radioisotope licence for food irradiation the Radiation Protection Division consults with the Food and Drug Directorate and, where appropriate, incorporates in one set of health conditions the restrictions which are necessary to ensure compliance with both sets of Regulations.

Letter to the Editor

Dear Editor:

I am a home economics teacher at the above school and have, through the League for the Exchange of Commonwealth Teachers applied for an exchange post in Canada, preferably British Columbia, this coming September. I am informed by the authorities in England that at the moment they cannot help me at all, because no home economics teacher from Canada has applied to come to England using this exchange scheme. This being such an excellent scheme, I find this hard to believe.

May I make a plea if there are any home economics teachers who would be interested in spending a year in England on exchange to contact me immediately as I am most anxious to come to Canada for the school year 1967-68.

I am sure any Canadian home economics teacher would very much enjoy a year in my school in England, where she would be made to feel most welcome. The school is situated within easy reach of central London.

Yours sincerely,

Elizabeth M. M. Jones (Miss)
Evelyns School
Appletree Avenue, Yiewsley,
West Drayton, Middlesex.

L'Histoire du Costume et l'Art

by SOEUR MARGUERITE OUELLET

Soeur Marguerite Ouellet, C.N.D., M.Sc., Simmons College, Boston, professeur d'Histoire du costume au Département de diététique à Laval (Qué.)

Elle s'intéresse particulièrement aux vêtements portés par les Canadiens depuis la Confédération.

Définition: L'histoire du costume peut se définir comme la science des relations qui ont existé, dans un passé plus ou moins lointain, entre la manière d'être des humains et les influences du contexte social contemporain.

L'histoire du costume, **EXPRESSION DE LA PERSONALITÉ**, nous manifeste l'homme dans sa profondeur psychologique. Certains psychanalystes s'intéressent à cette science comme à une source de renseignements sur le comportement humain. **SYMBOLE DES ÉVÉNEMENTS POLITIQUES DE L'ÉPOQUE**, l'histoire du costume nous présente l'homme et son besoin fondamental de se sentir partie intégrante d'un tout social. **ÉMERGENCE DE L'ART**, l'histoire du costume nous révèle l'homme avec son souci de joie intellectuelle vécu en conformité avec la beauté ambiante.

Pourquoi le costume existe-t-il?

De tous temps, le *climat* et les *considérations sociales* ont imposé le port de vêtements et d'accessoires appropriés; dans certaines îles du Pacifique par exemple on a trouvé des vêtements munis de lanières de cuir qui en s'agitant chassent les moustiques ainsi que des jambières qui protègent contre les sangsues. On avait aussi des armures métalliques qui faisaient écran aux flèches.

Le costume a toujours été pour l'homme l'occasion d'afficher une certaine supériorité sur ses semblables: l'homme accumulait les pièces vestimentaires, il multipliait les bijoux ou utilisait la richesse des tissus.

Le costume signifiait encore une valeur morale pour l'homme qui s'en revêtait. Comment ne pas admirer la force déployée par le héros aux prises avec l'animal qu'il parvenait à abattre pour sa nourriture et son vêtement, et qui revenait du combat avec des blessures sanglantes! . . . Le tatouage n'aura pas d'autre origine chez les peuples primitifs.

Comment ne pas être fier de porter une toge alors que seuls les citoyens romains libres avaient ce privilège, à l'époque romaine? . . .

Comment ne pas se prévaloir des lois somptuaires pour accuser les différences sociales entre nobles et roturiers au moyen âge et marquer sa supériorité dans la société? . . . Il y eut 16 lois en 300 ans. Pour ne citer qu'un exemple: une loi prévoyait la longueur des chaussures selon le rang de l'individu: les poulaines devaient se limiter à six pouces pour les paysans; à douze, pour les bourgeois et à vingt-quatre, pour les seigneurs.

Le costume a également servi à identifier l'appartenance à certains groupes au sein de la société: militaires, agents de police, chevaliers, religieux, universitaires aux robes de couleurs distinctives des facultés, insignes, épingles et chatons de bague.

Les sources historiques pour le costume:

1. L'étude sur place des temples, des palais, des cavernes et des ruines;
2. L'étude des vitraux, des mosaïques, des fresques, des inscriptions et des tapisseries;
3. La visite des musées qui ont recueilli des papyrus, des tablettes d'argile, des pièces de monnaie, des bijoux et des vêtements;
4. La visite:
 - (a) des bibliothèques qui possèdent des manuscrits antiques (littérature, histoire, annales), des incunables, des feuilles de modes, des revues, des journaux.
 - (b) des glyptothèques ou autres musées qui conservant des sculptures authentiques;
 - (c) des pinacothèques qui gardent les peintures et les portraits des maîtres.

Influences sur le costume:

Les influences climatiques, psychologiques, économiques, politiques, religieuses et artistiques ont respectivement joué un rôle sur le costume. Deux périodes historiques sont particulièrement révélatrices des influences artistiques: l'antiquité avec le costume égyptien et l'éveil moderne avec le costume de la Renaissance.

Costume antique:

Le costume antique le plus intéressant est celui de l'Égypte.

Grâce à leurs croyances en l'existence de dieux et en l'immortalité de l'âme, les Égyptiens ont laissé des temples splendides et ils ont comblé les chambres mortuaires de tout ce qui pouvait être de quelque utilité dans une autre vie. Les pyramides, les hypogées et les mastabas recelaient d'ustensiles, de bijoux, de vêtements et de statues en tenue de service dans des pièces tapissées d'hieroglyphes.

La civilisation égyptienne, si riche soit-elle, demeura cependant une énigme jusqu'au jour où François Champollion, en 1822, put nous en livrer la clef en déchiffrant l'inscription trilingue de la stèle découverte à Rosette en 1799 par un soldat napoléonien de l'expédition d'Égypte. Les caractères hiéroglyphiques n'étant qu'une répétition des caractères coptes et grecs, il fut possible de pénétrer le secret des hiéroglyphes.

Le vêtement masculin se limitait au pagne et le vêtement féminin consistait dans le port d'un fourreau retenu par deux bretelles, nommé calasiris. Cependant les gens de la noblesse revêtaient pour les grandes circonstances une collerette de mousseline abondamment plissée.

Par souci de propreté, les Égyptiens se rasaient la tête et coiffaient de gigantesques perruques. L'épouse du Pharaon coiffait un épervier dont la tête d'argent ciselé reposait sur son front et les ailes déployées lui couvraient le crâne.

Les deux couronnes de la Basse et de la Haute Égypte se superposèrent un jour pour donner le "pschent" que coiffait le Pharaon. Ce dernier portait également une barbe postiche alliant ainsi le signe de la virilité aux préoccupations hygiéniques.

Toute l'originalité du costume égyptien se trouve dans les motifs décoratifs puisés dans la flore et la faune.

Le lotus et le papyrus stylisés ont donné les belles colonnes lotiformes, pour le lotus, et les colonnes papyriformes ou campaniformes, selon l'inspiration du papyrus en bouton ou du papyrus épanoui comme dans le temple de Karnak. Ces mêmes plantes servaient à confectionner les sandales et les éventails.

Le scarabée est symbole de vie éternelle, on le sculpte dans la pierre précieuse ou dans l'ivoire pour en former des bracelets, des colliers. On le trouve au centre du pectoral.

L'épervier est l'hieroglyphe du dieu soleil Râ ou Horus et de la royauté. Lorsque l'épervier porte une tête humaine, il est l'hieroglyphe de l'âme. Il protège le chef des nobles et se prête à l'inspiration des joailliers.

Le serpent, haje ou uraeus, symbole de la terreur que doivent inspirer les rois et les dieux, se fixe sur le khaft ou rehausse la beauté des boucles d'oreilles, des colliers et des appliques.

Le disque solaire ailé, symbole d'immortalité, se compose du sol ou dieu Râ accompagné de deux têtes de serpent et des ailes de l'épervier. Il décore les ceintures et les bracelets.

Si on ajoute à ces motifs décoratifs quelques dieux représentés avec des têtes d'animaux sacrés, nous avons une idée de l'art égyptien qui est essentiellement un art religieux. Le costume porte en lui le symbole d'une autre vie sous la protection d'êtres supérieurs.

Le costume à l'époque moderne:

La renaissance est cette époque qui coïncide avec l'évolution des esprits:

1. par un retour délibéré vers l'antiquité et la nature, et

2. par une tendance à l'universalisme en combattant le développement de l'individualisme et du nationalisme.

La création des universités aida ce renouvellement de la pensée et cette orientation vers la nature favorisa une nouvelle conception des vêtements plus conformes à la figure humaine.

L'art de la fin du moyen âge avait

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abusivement marqué le costume en imposant la ligne du style gothique flamboyant pour toutes les parties du vêtement. Avec la fin du XVe siècle, la flèche des cathédrales cède timidement le pas à la coupole, inspiratrice de stabilité et de simplicité. Le hennin et l'escoffion disparaissent de la scène, remplacés par le chaperon d'étoffe qui épouse la forme de la tête, avec templettes retombant sur les épaules. La robe est toujours longue mais de coupe plus sobre que la houppelande; une encolure carrée et de larges manches préparent la silhouette de la vraie Renaissance avec la ligne horizontale.

L'homme revêt un pourpoint ajusté à courtes basques et serré à la taille par une ceinture; le bas de chausses se séparent des haut-de-chausses et la chaussure s'arrondit et s'épate pour imiter les pieds du roi qui, dit-on, avait six orteils à chaque pied.

Cependant le costume français de la Renaissance n'atteint son expression la plus parfaite que sous le règne de François Ier alors que l'évolution de l'humanisme permet une liberté plus grande de penser, qui resuscite la joie de vivre et le goût du luxe.

Parce que la naissance d'une mode est presque toujours marquée par une exagération, la Renaissance connaît l'extravagance des vêtements qui accentuent la ligne horizontale par réaction contre la verticale du gothique. L'apparence physique de Français Ier en arrive à s'harmoniser parfaitement avec l'architecture des palais qu'il a fait construire. Les moulures comme les lourdes corniches des ordres superposés de l'époque inspirent le style des différentes pièces vestimentaires portées alors par les hommes comme par les femmes.

Le *couvre-chef* voit sa ligne horizontale accentuée par l'addition d'une magnifique plume d'autruche.

La *barbe* est courte et disposée dans le sens de la largeur.

Le *pourpoint* s'ouvre d'une épaule à l'autre et contribue à souligner l'ampleur de la carrure.

La *casaque* est munie d'énormes manches courtes et relevées.

Les *chaussures* dites "à pattes d'ours" élargissent la silhouette générale du pied.

Pourtant, n'allons pas croire que le costume féminin soit plus modéré en éclat ou en volume que celui du sexe fort!

La silhouette féminine rappelle passablement celle des coupoles. Le vertugadin prend la forme d'un entonnoir renversé, doublé de soie et portée sous la jupe de robe ouverte sur le devant pour laisser paraître la riche coloris du vertugadin. Pour couronner la coupole, on connaît la vogue des fraises, ou collerettes godronnées, en fine dentelle italienne devenues populaires grâce à l'influence de Catherine de Médicis.

Si l'on blâme ce goût du faste royal, la Reine répond que son but est de montrer à l'étranger que la France n'est pas aussi totalement ruinée et pauvre qu'on l'estime par suite des guerres passées et que la France n'en est que mieux appréciée et redoutée, refusant de laisser croire que la France est formée de grands gueux.

De l'autre côté de la Manche, Elizabeth d'Angleterre déploie également un luxe extravagant, attribuable, croit-on, au besoin d'autorité qu'elle veut imposer. L'élaboration de ses toilettes prend figure de succédané pour compenser sa vie solitaire et sans amour.

Le costume continue d'être tributaire de l'art contemporain. Le sens fonctionnel qui transforme la ligne des édifices et des meubles depuis quelques décades se manifeste également dans la coupe des vêtements modernes. Les matériaux nouveaux, comme les tissus synthétiques, sont responsables de ce renouvellement de l'esthétique, pour donner plus de simplicité et d'uniformité tout en assurant un confort supérieur à celui des périodes antérieures.

Si autrefois le costume historait les événements d'envergure nationale, il paginera désormais les faits internationaux. Seroit-il pour les générations futures aussi difficilement déchiffrable que notre peinture abstraite? . . . Peut-être! . . . Mais c'est dans le contexte d'un siècle troublé par les guerres qu'il faudra l'étudier. L'uniformité du vêtement pour les différents peuples indique bien un besoin actuel de solidarité de tous les humains sur la "terre des hommes."

REMINDER of FEES INCREASE

The membership fee of the Canadian Home Economics Association has been increased to \$15.00 per year, effective May 1st, 1967.

expo67 . . . 1967 World Exhibition

by M. YVES JASMIN

Director of Public Relations

The City of Montreal was selected as the site for the Universal and International Exhibition of 1967. A 1,000-acre site, magnificent to behold, was built in the middle of the majestic St. Lawrence River. It stands between the panorama of the city itself, and the parade of international ships entering the Seaway, road to the heart of the North American continent.

To people an Exhibition is a Fair, a Fair is an Exhibition. If we said ours was greater than the New York World Fair no one would believe it. Superlatives get lost by their very magnitude and abundance. We can't top it and we shouldn't try. Let us be the first to have an exhibition in the Americas which will be on a human scale and directed to human values.

Surveys indicate this is the right track. People who come to Exhibitions want to meet people, not computers; want to eat really good food not synthetic pills; want to know by themselves not by books or by abstract voices; want to see for themselves and touch real things not sit in front of TV screens; want entertainment and want to be part of it. They also want to learn, whether or not they admit this to themselves. All this we set to work to do in 1963-64 and in 1965 we gave it the final touch. Now in 1966 all of it is coming out of the ground for all to see.

Expo 67 has a theme, *Man and His World*. This represents buildings, designs, machinery, people all demonstrating in an entertaining and educational fashion what man has contributed to his planet:

- *Man the Creator* will show the world's finest masterpieces loaned to Expo by the participating nations. The world's finest photography, the world's best industrial designs, the world's best sculpture.

- *Man in the Community* will show how man came to live in communities and the problems he is now facing in the communities of today.

- *Man the Provider* will consider the

feeding of the multitudes, especially through the miracles of agriculture.

- *Man the Producer* will examine the state of world resources. Man in progress, his technological achievements ending with the question, Is man in control? answering the often unspoken fears of automation.

- *Man the Explorer* will explore the polar regions and their immense untapped wealth; the oceans, forever being probed; planets and space and what the future promises to be.

All this does not answer the public's basic questions of "What's in it for me." Well, Expo 67 has the answer:

- It's accessible. It's within easy mile-a-minute driving distance from a radius of 500 miles.

- It's inexpensive. Once inside the gate your main transportation system is free. All pavilions are free and much of the entertainment.

- There are more beds available in Montreal and its immediate region than you can possibly fill. It's all computed by Logexpo.

- There's food at Expo in an incredible price range, from a 25-cent snack or a dollar dinner to a sumptuous 10-course gastronomical feast with choice wines in many national pavilions.

- There's a minirail and boats for those who do not want to walk.

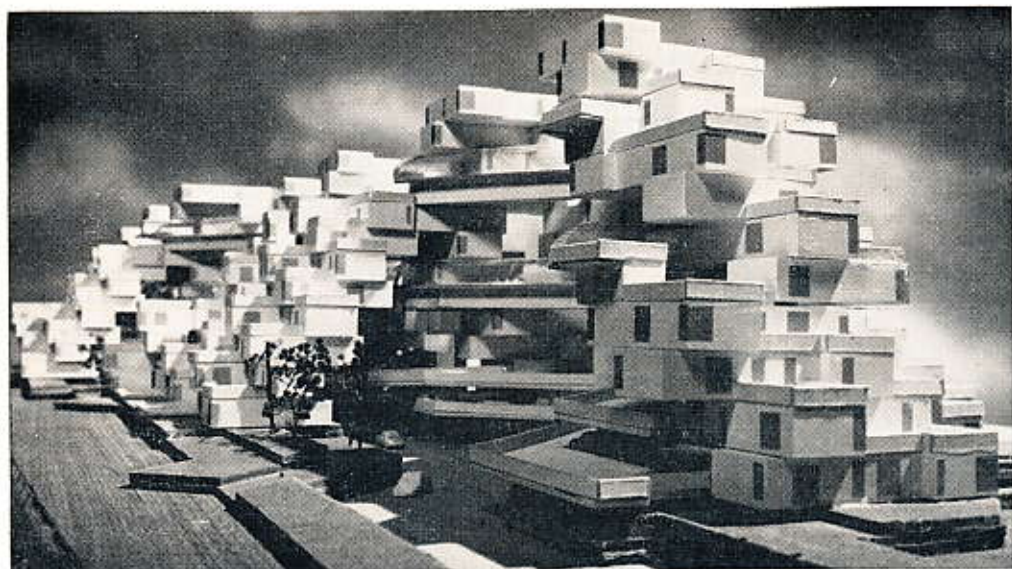
- There are strollers for your babies, papoose carriers, nurseries and supervised children's gardens at a nominal charge.

- There's park space, more than any Exhibition has ever offered.

- There will be water everywhere, rushing water, dancing waters, still waters. One can cast a line for muskies in the St. Lawrence, take a water craft in our canals from the Canadian pavilion to any other on Notre Dame Island, watch a canoe regatta or simply look across water at Montreal harbor and its activities.

- There are national days and all the

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HABITAT 67 — A pyramid cluster of 158 houses presents a new approach to family living in a high density urban development at the 1967 World Exhibition in Montreal. The houses are made of pre-cast concrete in 15 different types of from one to four bedrooms. Each house will have its own landscaped garden, shielded from its neighbor and affording a measure of privacy not usually found in high density residential areas.

color, pomp and ceremonials associated with the tradition of each country.

—There will be 250 Expo hostesses to guide you on the site and many many times that number from all the pavilions, representing youth from all over the world.

—There's fun in store at La Ronde, a permanent Tivoli-type family amusement park with international entertainment, fabulous shopping, good food, rides, and relaxation.

National pavilions (more than 60 of them) are being erected where each country will demonstrate its contribution to our planet. In addition there will be about 40 other pavilions, including a pavilion of Christian unity where for the first time seven Christian churches are uniting to tell the story of Christ, and great private pavilions telling their companies' contribution to the Canadian scene — transportation companies, communications, consumer products, building materials, raw materials, finished products, services.

Passports will be your entry instead of a ticket. People with seven consecutive day passports or season passports will have a

permanent souvenir. These passports are available through banks, stores, travel agents at very favorable prices. (Editor's note: passports are now available at C.H.E.A. national office.)

The Public Relations department is responsible for the strategy of the Expo 67 message. With the help and support of government agencies, federal, provincial, and municipal, our exhibitors, carriers, hotel and restaurant associations, and many firms, we can put on a remarkable show on behalf of Canada.

How can you help? There are as many answers as there are people. You know our story. Expo is Canada's responsibility and we are all responsible as Canadians. We do have suggestions for you. Purchase and sale of passports through employees' associations; putting up Expo posters; using our metered mail slugs; using our Expo slogans; sponsoring some Expo property; telling our story through your speakers, through your house organ, through your institutional ads; getting groups organized to visit Expo. You could also join those who prefer to ignore it or knock it. This is the easy way out. Wouldn't you rather be with the in-group?

Some Recent Research and Writing Related to the Teaching of Food and Nutrition

by MARY MARGARET CARMICHAEL

Dept. of Home Economics Education, College of Home Economics, Cornell University

The topic originally chosen for this presentation was "Techniques in Teaching Home Economics." Since a review of teaching methods might include material with which the group was well acquainted, I thought that you might find most helpful a review of some of the recent research and writing that was related to the teaching of food and nutrition. In selecting the particular studies or writings to present, I used the following criteria: (1) applicable to secondary school teaching, particularly the teaching of food and nutrition; (2) a variety of studies to reflect a number of the considerations of a teacher in developing a unit of study in food and nutrition, including choosing objectives, teaching methods, and evaluation, and (3) those studies that reflected a new slant or new approach to a subject, the ones that I believe would be influential in giving direction to further research and teaching. I realize that this is a selected list, that there are many studies which meet the above criteria but which I could not include either because of space limitations or because they are not readily available in published form.

I shall begin with a review of several tests that have been developed, for the entire field of evaluation is an area in which I believe we need to devote a greater amount of our resources. The first test to be described was developed by Arla Wangsgard¹, and it is a food laboratory examination that is a pretest for a college course in food and nutrition. I chose this study because it involves the ideas of pretesting, of testing in the psychomotor area, and the analysis of material for the crucial or key aspect of it. Miss Wangsgard developed a practical laboratory test because a written examination does not measure manual skill in food preparation. Previous laboratory

examinations had been the preparation of one complete product. Some limitations of this method are that it can be time consuming and does not give a good sampling of a student's experience. Therefore, Miss Wangsgard developed a laboratory examination that could be given during a one-hour period to a group of students at one time. Each student did eight different tasks, with all students rotating among tasks throughout the hour. Each task was not a whole preparation, but only the crucial step in determining the quality of many products. An example of a task in the test is: cutting fat into flour as if making pastry.

Some of the ways in which this pretest could be used are: (1) grouping students for instruction—those who have knowledge and skill would not repeat material with which they are familiar, (2) a basis for exempting students from the course as a whole or parts of it, and (3) a basis for measuring progress at the end of the term.² This test could also be accompanied by a written examination.

What I consider the unique and outstanding aspect of this test is its use of structure—that Miss Wangsgard has chosen a few crucial procedures. Today there is a great deal of emphasis on choosing key or basic concepts to teach, especially when time is limited.

A second pretest I want to mention is one done by Elizabeth Shomo.³ I have included this because it is also a pretest and because of the procedure Miss Shomo used in obtaining a basis for the development of the test. This is a written pretest in food and nutrition with objective type questions for seventh and eighth grade pupils. Miss Shomo developed this test because she wanted to have a basis for grouping pupils for level of instruction according to knowledge in the area and then to begin her teaching at the appropriate level for the

Presented at the Pre-Convention Course "Foods Today and Tomorrow," C.H.E.A., at McGill University, July 6-8, 1956.

pupils. She wanted to develop a test with wide usage—one that could be used by many teachers, not just herself. Therefore she took the content for her test from junior high school level textbooks. She examined the food and nutrition section of seven junior high school level textbooks and determined each of the topics covered and the relative space given to it. She then developed her test so that the same percentage of items on the test were devoted to each topic as was reflected in the emphasis given to these topics in the textbooks. What I consider the important aspect of Miss Shomo's test is the breadth of it.

In the next test I believe the unique contribution is depth—depth of understanding. This is a test to measure not only knowledge but also the ability to apply knowledge in a new situation. This is a test in food and nutrition developed by Roberta Jacklin.⁵ It was given to seventh, eighth, and tenth grade pupils and has multiple choice questions. The questions were based on principles taken from foods and general home-making textbooks for secondary level. Dr. Jacklin used the following classification developed by Adkins for making her test questions.

*Adkins' Classification of Multiple Choice Items**

1. "Problems that require only knowledge of facts . . ."
2. "Problems that require the application and use of information" in fairly routine situations.
3. "Problems that require insight into the basic reasons for relationships . . .", reasoning, solution of problems in a new situation.

She took each principle and developed questions for it on the knowledge level—merely knowing the fact; questions in which one would have to apply the knowledge in a routine situation; and then questions in which one would have to apply the principle in a new situation. Dr. Jacklin wished to find out if these levels were cumulative, that is, if a pupil could solve a level 3 problem in a new situation, could she also

solve a level 2 question on a routine situation on the same principle, and could she answer a simple factual question at level 1 on that same principle. There is a problem in classifying items in home economics, for what is a new situation to one pupil might be routine to another. She could find little evidence of cumulative levels with this test, but her findings contain many provocative ideas and are a basis for further research.

The idea of a classification of levels of understanding has been developed by several different people. I believe it is a concept that will become increasingly important, not only in the development of an entire curriculum, but also in a teacher's daily decisions in lesson planning, choice of teaching method, and development of evaluation procedures. One of the most descriptive is a taxonomy developed by Benjamin Bloom and others.^{1,6} Their purpose was to help teachers and research workers classify curricular and evaluation problems.⁶ In their taxonomy objectives can be in the areas: (1) cognitive—knowing, a change in knowledge or intellectual skills; (2) affective—a change in attitudes, appreciations, values, action patterns; and (3) psychomotor skills—developing a skill, being able to do something. Descriptive books have been published on each of the first two areas.^{1,6} The cognitive domain is designed to be cumulative, beginning with the level of knowledge and then proceeding to the intellectual skills and abilities of comprehension, application, analysis, synthesis, and finally the highest level of evaluation. The second area of the affective domain is designed to be cumulative also—going from merely being willing to listen to something, or receive, through the fifth level of having an all encompassing value complex. A comparison of the three areas is in the article by M. Ray Loree "Relationship Among Three Domains of Educational Objectives" in the book *Contemporary Issues in Home Economics*.⁷

Alice Thomas⁸ did a study to find whether the first three of the cognitive levels were cumulative. She did find substantial support that pupils who could answer application questions on a particular principle could also answer knowledge and comprehension questions on the same principle.

*Dorothy C. Adkins, *Construction and Analysis of Achievement Tests*, Washington, D.C., Superintendent of Documents, U.S. Government Printing Office, 1947, p. 51 (from Jacklin, pp. 35, 111-112).

Next I would like to describe a study on a teaching method. This was done by Dr. Shirley Weber², a member and former Journal editor of the Canadian Home Economics Association. I have chosen this study because I think it is outstanding in that it has three timely aspects to it: (1) it involves the development of one of the newer teaching methods, programmed learning, in the field of nutrition, (2) the basis for the material is basic concepts and generalizations, and (3) the tests on the programs have questions not only at the knowledge level but also at higher levels of comprehension and application using Bloom's taxonomy. Dr. Weber wrote eight units of programmed instruction in basic nutrition for seventh grade pupils. Each of the eight programs is a small complete booklet.

What I consider the unique aspect of Dr. Weber's programs is that each program is based on a generalization about nutrition. Each program is designed to help the pupil understand the generalization. For example, the title of the first program is "The Nutrients" and the generalization on which it is based is "Nutrients found in food are needed by the cells of the body."²

Dr. Weber also developed a pretest and post-test on the programs. The tests had questions at both the knowledge level and also at higher levels of comprehension and application, using Bloom's classification. Dr. Weber's thesis includes a thorough statistical treatment of these.

Another superior study which could well be used as one of the bases for curriculum development was that of Patricia Carlin.³ She did a thorough analysis of the research on concept formation, abstracted the key ideas from these, and then used this as a basis for making suggestions for a home economics curriculum in management for the early high school years. She has given many suggestions, based on the results of experimental research, for procedures a teacher can use for developing a concept. Miss Carlin suggested the first 33 lessons for the beginning overview part of a management course, her suggestions being based on the results of research in concept development. Since the first few of these lessons dealt with the concept *organization* as it related to food, analysis of a few of

these would be relevant to your interests. Miss Carlin suggests that the concept approach unifies content and method. One chooses the concepts to be learned, and chooses the teaching method by considering how concepts are best learned. She suggests that concepts can be hierarchical, and generalizations can be thought of as the links implied between the levels.³

One very influential book that includes this same subject of developing concepts or structure is *The Process of Education* by Jerome Bruner.⁴ The dominant theme of the book is the importance of structure in learning to give "students an understanding of the fundamental structure of whatever subjects we choose to teach."² It is the best approach for having the student's "limited exposure" to materials "be made to count in their thinking for the rest of their lives."²

A group working under the auspices of the U.S. Office of Education has written concepts and generalizations for five areas of home economics.⁵ The generalizations developed in the area of food and nutrition were classified in the three main divisions of (1) significance of food as related to various areas, (2) nature of food, and (3) provision of food. A sample of one of the generalizations listed under the heading Production, the topic of the first day of the conference, is: "As more services are built into foods, the control of industry over the kinds and quality of food increases while that of the home decreases."⁵ An outline of generalizations like this can be helpful to a teacher as a guide in giving both a wide scope and depth in teaching.

Finally, the last book I would like to mention is *Teaching Nutrition* by Eppright, Pattison and Barbour.⁶ This, too, contains a large section on generalizations, and I think it is a helpful reference for secondary school teachers.

In summary, I hope you can find practical use for the ideas from some of these studies, as: pretesting, laboratory tests, structure in tests for depth of understanding, use of programmed instruction, and the use of concepts and generalizations as a basis for content and method.

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¹²Weber, Shirley Mae. *The Development and Evaluation of Eight Units of Programmed Instruction Designed to Teach Basic Nutrition*. Ph.D. thesis, Cornell University, Ithaca, New York, 1965.

Revised Booklet Now Available

Recently the reference manual — *Food Habits of New Canadians* — prepared by the Toronto Nutrition Committee, has been completely revised and reprinted under the new title of — *Food Customs of New Canadians*.

The new edition, expanded to include thirteen ethnic groups, will continue to be a useful guide for public health personnel, dietitians, teachers, social workers and others concerned with the food habits, welfare and status of New Canadians. The booklet contains details of the eating patterns in the country of origin, adaptations made in the Toronto area and suggestions for teaching.

Single copies available for \$1.00 from Toronto Nutrition Committee, Box 744, Terminal A, Toronto 1, Ontario. Orders of 10 or more cost \$0.80 each (64 pp. — available after February 15, 1967).

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MARCH, 1967

Who's Who in Canadian Home Economics

Isabel MacArthur
B.Sc.(H.Ec.), M.A., Ed.D.

Our Canadian Home Economics Association has been most fortunate in having Dr. Isabel MacArthur serve, until quite recently, as comptroller of the scholarship fund.



A native of Winnipeg, Dr. MacArthur attended the University of Manitoba, where she received a Bachelor of Science degree in Home Economics. Graduate studies took her later to Columbia University, New York, and here she obtained both

a Master of Arts and a Doctor of Education degree. She completed also an intern course in dietetics at the Hospital for Sick Children, Toronto. Two education fraternities have honored her with membership.

Dr. MacArthur had a fine background of education to prepare her for her career in home economics. She has held positions in hospital dietetics, in the R.C.A.F. as a Messing Officer both in Canada and Overseas; and in the School of Home Economics, University of Manitoba, as Professor and Director. After this she held the position of Hospital Consultant in the Manitoba Hospital Commission. She has contributed articles to professional journals.

In addition to her responsibilities in the C.H.E.A., Dr. MacArthur has taken an active part in other organizations. These included the Manitoba and American Home Economics Association; the International Federation of Home Economics; the Canadian Dietetic Association and the Manitoba branch of the Consumers Association of Canada, serving each organization as president; and the Women's Institutes, as a member of the board.

Dr. MacArthur had to retire from an active professional life, as well as give up curling, travel, and other interests in 1963, due to illness. She, however, with her cheerful disposition, her fine philosophy of living,

(Please turn to page 27)

Constance Marie Grainger
B.Sc.(H.Ec.)

Mrs. Lorne Grainger (née Krajarski) is presently the comptroller of our association's Scholarship Fund. A native of Winnipeg,



Mrs. Grainger attended primary and secondary schools and the University of Manitoba in this city, and from this latter institution she received a Bachelor of Science degree in Home Economics.

Mrs. Grainger taught home economics in British Columbia before her marriage. After bringing up a family of two girls and a boy, she returned to her professional field, and for the past six years has held a part-time position in Clothing and Textiles at the University of Manitoba. She is taking graduate courses in textiles, in addition to her teaching, as well as participating in textile research projects.

As a member of the program committee, Mrs. Grainger helped plan the Silver Jubilee Convention. For the past two years she has been chairman of the Silver Jubilee Scholarship Drive Committee. Now, as comptroller of the fund, she says that, "I am looking forward to the disbursement of some of this money for post-graduate work. This would increase home economics research being done in this country. Areas that could benefit are home economics education and family life." She thinks also that recent graduates, as well as those who want to return to their former profession, "could be encouraged to do post-graduate work if the conditions were sufficiently attractive."

Mrs. Grainger is a member of the Manitoba Home Economics Association. She takes an active part in the work of the Westworth United Church women. She and her husband are interested in their children knowing Canada, thus vacations are spent in travelling to various parts of the country. She hopes that some day she will have the opportunity of carrying on a working project in Canada's north country.

CANADIAN HOME ECONOMICS JOURNAL

Management and Relationship in the Home

by MARJORIE A. HARRIS

Macdonald Institute, University of Guelph

In 1959 delegates as a separate section met under the UNESCO World Union of Organizations to consider the agencies available in a community that could offer assistance to youth. This designated the first conference for the safeguard of youth. The purpose of the second conference in Brussels, 1962, was to study preventive measurements for juvenile delinquency. These two important principles emerged from this meeting: the development of guidance centers for parents and youth, and parents as well as youth must change their set of values. Thus it was appropriate that the third conference, held in Evian, France, June 1966, discussed the value of contributions from families to youth. During this meeting this communication, "Management and Relationships in the Home" was given at the workshop, "Family Development in Industrial Countries." At the conclusions meeting of the conference these component parts of the communication were recorded.

To some families the concept of management and relationship is simple with no constructive principles. In these homes there is a lack of management with direction, guidance, co-ordination and communication; as well as lack of consistency in the relationships; self-respect, co-operation, sharing of responsibilities and discipline.

Although we must recognize the splendid work achieved in this maladjustment "juvenile delinquency" by such professional groups as law, medicine, education, social work and home economics, we must focus our attention to the role of the family working as volunteers in a team approach with these professions. Representatives of all professions must work together on all cases involving the health, education and welfare of children and families. Greater use must be made of the volunteer worker, and the concept of what the volunteer worker should do must be changed. These were two of the important conclusions arrived at during the Canadian Conference on Children, October 1965.

In this day of automation, management

and relationships in the home are more important than ever before because automation means increased leisure time for family members. If parents are to meet this problem in the home then the solution must have meaning to youth. For the achievement of this goal parents must be aware of the essential principle of management and relationships necessary for our present homes. This principle may be stated in this way: money management, relationships, the management and work of the home assists in establishing the family with the security, privacy, sharing of responsibilities, self-sufficiency, freedom and understanding that tends to unite youth with their families. In some of our Canadian families this security is lost due to the rapid functional changes altering youth's perception of values, resources and goals. The importance of this principle dates back as far as the time of Aristotle in the 4th Century B.C., who claimed that the two areas most prominent for the realization of a good society were economics (meaning the science of home management) and politics (meaning the science of government).

With the development of individualism, youth has changed their attitude toward religion, use of contraceptives, sexual intercourse, marriage and divorce. Individualism is the goal desired by youth for the pattern of Canadian family living. At the same time each youth has an acute need to conform with his peers. This balance between individuality and conformity is very difficult to maintain within the home.

Excessive credit buying means extra pressure on the family with the development of tension which leads to conflicts and frustrations within the home. Parents value material possessions, whereas youth is seeking emotional security in their home not material possessions which has no individual security worth to them.

How the family manages its income with the use of credit is an area of home management that affects the development of the

family. In a brief submitted by the Metropolitan Toronto group, financial ignorance played a significant part in a number of broken homes. If this is true our educators should develop financial programs in our curricula for both boys and girls.

Research studies show that the most difficult area for low-income families is budgeting their expenditures, and managing the daily routine home-making tasks. In low income families homemakers seem to lack motivation for the achievement of improvement in home conditions through management in the use of the resources. Moreover, there is great need for interpersonal relationships with understanding that provides emotional security and self-respect for the family members.

The family must accept and adjust to socio-economic functional changes; these are here to stay. The important question for us to answer is how can we prevent these changes from disrupting unity within the family? If we are to achieve this goal youth must find in the management and relationships within the home self-respect, peace, comfort and scope for expression.

SECOND HOME ECONOMICS CLUB CONVENTION

A Cross Canada Home Economics Club Convention was held on November 4, 5 and 6 at the University of Guelph, Guelph, Ont. The theme of this conference was "Why Graduate Studies?" and delegates attended from the following universities: Saskatchewan, Manitoba, Toronto, Western Ontario, Laval, Macdonald College, Mount St. Vincent, Acadia and Mount Allison.

After registration and a tour of Macdonald Institute Friday morning, the delegates split up into two groups in the afternoon — one group visited the Ontario Veterinary College where they were given an interesting talk and tour of the clinics; the other group visited the Apiculture Division on campus where they were lectured informally about honey and saw several areas of research. This tour was especially interesting as these are the only apiculture facilities of this kind in Canada.

Dinner Friday evening was held in the home management apartment with a

group of third year girls acting as hostesses. An informal discussion period followed in which the delegates discussed various business matters pertaining to the convention at present and in the future.

On Saturday morning, after being welcomed by the Dean of Macdonald Institute, Dr. M. McCready, and the president of Union Council of the University of Guelph, the delegates heard a panel discussion of research possibilities in different areas of home economics. The areas presented were clothing, textiles, home management, foods and nutrition. Dr. McCready was chairman of the panel and it was composed of members of the faculty of Macdonald Institute. Miss Wanda Young, president of C.H.E.A., spoke at the Saturday luncheon on, "You in Our Profession." She categorized students into four groups according to their relative roles in home economics after graduation, pointing out which role was most beneficial to the profession. Projects using our knowledge in foods, clothing, and family living were suggested as possible activities to make our own clubs more worthwhile.

On Saturday afternoon, the delegates toured the computer laboratory on campus. It was explained how computers could be used to assist in research to eliminate a lot of the technical work.

Sunday morning, following brunch, a very informal seminar was led by Mrs. M. Norquay of Toronto on "Have You Researched Your Faith Lately." This led to a very lively and interesting discussion period.

Professor Warlow of the University of Guelph faculty, spoke on "Communications" at the Sunday luncheon. He agreed that the seminar format of the conference was one of the best ways of communicating ideas as it involved a two way flow. He also stressed the importance of successful communication at the graduate level.

All of the delegates agreed that the most important part of the convention was the opportunity of meeting other home economics undergrads from across Canada and exchanging ideas about courses and clubs. Although no definite plans were made for the convention next year it looks as if it may be held in the West.

CANADIAN HOME ECONOMICS JOURNAL

Abstracts of Current Literature

Submitted by Brescia College, University of Western Ontario

Differential Effects of Coffee on Speed and Power Tests.

G. A. LIENERT and H. P. HUBER. 1966. *The Journal of Psychology*, 63: 269.

Considerable information has been gathered concerning the effects of coffee on psychological test performance. Careful study of these reports suggests that positive effects occur most often in performance on tests requiring speed. This study was carried out to examine the question of whether the effect of coffee on performance of speed tests is different from its effect on performance of power tests.

The subjects used consisted of two groups of fifty students selected at random.

Each subject was given two standardized tests in an individual session: (a) the 'Intelligenzstruktur' test by Amthauer, a battery of nine more or less speeded power tests, and (b) the 'Konzentrationsleistung' test by Dürker and Lienert, a typical speed test consisting of 250 relatively easy arithmetical items of the form $8 - 3 + 7 = ?$

Fifteen minutes prior to testing, subjects of the experimental group were given a cup of strong coffee (Nescafe) containing .3 grams of caffeine. The subjects of the control group did not receive any drink.

It was hypothesized that speed of test performance would be increased by caffeine, whereas power performance would remain unchanged, or be decreased. The theoretical implication was that the dynamic factors of intelligence should be positively influenced; the cognitive factors, on the other hand, should be influenced either not at all, or perhaps negatively.

As predicted, data obtained from these tests indicate that mean performances of the speed tests and the mostly speeded power tests were increased significantly for the coffee group, whereas mean performance in the less or non-speeded power tests was either not affected or reduced.

Results were interpreted in terms of a multiple-factor theory of intelligence by changes in speed factor loading of the tests under caffeine.

Feminine Stress in the Twentieth Century.

H. M. GLENN and J. WALTERS. 1966. *Journal of Home Economics*, 58: 703.

Due to the tremendous changes since 1900, women (taken from the middle class for clearer

generalizations) often find themselves in a dilemma, facing many problems never dreamed of by their grandmothers.

Girls born at the end of World War II have a life span with an average increase of 21 years over those born in 1900. Living in suburbia is much more complex than rural life, both in personal demands and family responsibilities. Women's employment has risen by leaps and bounds, yet the percentage of those in professions and in top level executive and administrative positions have not risen in proportion. Gainful positions are on the increase, but women are not continuing their education to the full extent of their abilities. Particularly in graduate studies women are falling behind. Drawn between marriage, homemaking, and a career, women are often the target for discriminating wages. Is this due to a society which differentiates between a career and homemaking to the extent of producing a sense of guilt where young women should find their greatest fulfillment?

The single women also come under these stresses in a different way. In the case of caring for an aged parent, society in many cases throws the full responsibility on them. Expansion of Social Security, income protection, and medical insurance programs are easing the financial responsibilities of older women and those who have lost their husbands.

What is the real role of women? From the above evidence, the nature and role expectations, defined by society, seem contradictory. Does their education prepare for fulfillment or frustration? Finding themselves in following worthwhile goals seems to be the crux of the problem, and a flexible system should permit them to do this in their own way.

Intestinal Absorption of Sucrose in Man: Interrelation of Hydrolysis and Monosaccharide product Absorption.

G. M. GRAY and F. J. INGELFINGER. 1966. *Journal of Clinical Investigation*, 45: 388.

It is well known that intestinal enzymes hydrolyze disaccharides. Some current textbooks state that disaccharide hydrolysis occurs in the intestinal lumen. However, in vitro studies showed that the intraluminal monosaccharide product concentrations were insufficient to support the concept of hydrolysis in the lumen. In vivo studies demonstrated low disaccharidase activity in the intestinal contents, suggesting disaccharides either entered

the cell before hydrolysis, or were hydrolyzed at the cell surface by mucosa-bound enzymes.

The authors investigated the relationship between sucrose hydrolysis and absorption of its components, glucose, an actively absorbed sugar, and fructose, a passively absorbed sugar. Thirty-two young, healthy subjects were studied using a double lumen tube placed at different levels of the intestine. Various sugar solutions were infused and intestinal samples collected.

Since the absorption of sucrose involves both glucose and fructose absorption, the rate of hydrolysis and the rates of monosaccharide absorption were observed. The glucose absorption rate was greater than the fructose absorption rate. Ten per cent of the glucose product, as compared with almost fifty per cent of the fructose product, accumulated in the lumen, contradicting the theory that disaccharides enter the intestinal wall before hydrolysis. The authors postulated that sucrose hydrolysis by brush border enzymes took place while the disaccharide was in the lumen.

It was observed that sucrose hydrolysis exceeded glucose absorption. Paired experiments results showed the same absorption rates for both monosaccharides released from sucrose and 1 : 1, glucose-fructose mixtures, therefore sucrose hydrolysis was not considered to limit the rate of absorption. Almost identical saturation kinetics for hydrolysis and glucose product absorption suggested an interdependence between the two.

Galactose in solution with sucrose appeared to inhibit sucrose hydrolysis. Glucose and galactose have been shown to compete for the same active transport process, therefore galactose would reduce the rate of glucose absorption. The authors concluded that sucrose hydrolysis was inhibited either by the higher concentration of glucose or by a feedback inhibition resulting from the saturated active transport mechanism.

Prints from the New Africa.

1966. *American Fabrics, Fall and Winter*, page 55.

The histories of Africa have led us to believe that the peoples of Africa have no indigenous dress or methods of producing fabrics. This is far from the truth. The merchants and kings of the early African Empire wore richly embroidered robes. Weavers of the royal houses wove special patterns for their masters which no commoner could wear on pain of death. Today textiles are still being hand produced in the villages of many parts of Africa.

Machine made prints derived from the traditional textiles of Africa are today manufactured in Holland, England, China, and soon

will be made in a new factory being constructed in Tanzania. The Tanzanian people have produced fabrics of several kinds for many generations.

In Kilwa, an ancient coastal city, the people grew a fine quality of cotton as early as the fourteenth century, and the women wove and spun this into cloth for dresses. An early textile of Tanzania is the bark cloth. This cloth is made from the bark of a tree and is rich in texture and natural color. The bark is stripped from the tree, rolled, tightly bound; the surface is then scorched and the bark cleaned again; rebound, pounded and spread in the sun to dry. It is then stretched and softened by heating and again left in the sun for several days. After the edges are trimmed neatly and evenly, the cloth is ready for decoration.

This is done by the use of a stencil with a simple geometric design. The dye is a mixture of leaves containing black dye, and potters clay in the liquid state. After drying, the clay is scraped off and the black color remains.

Besides bark cloth printing, various other processes of printing fabrics are used in Tanzania — among these the stamp printing process; in Ghana the Adinkira method. In all these processes the design is made with a dark motif on a white or light background. To obtain the reverse—a lighter motif on a dark background — the tie-dyeing and wax-resist methods are used, and in some instances the discharge method.

Hand produced fabrics are most desired in Africa for great events, but they are scarce and expensive.

African dress today is dynamic; it will change and develop but it will retain the fundamental flavor of African style which is becoming unified. African women have found new pride and a new sense of emancipation in roles in emergent Africa, and they have a new tone and tempo for fashion on the African Continent.

The Gangrene Organism—a Food-poisoning Agent.

JOHN E. DESPAUL, 1966. *Journal of the American Dietetic Association*, 49: 185.

Many outbreaks of food-poisoning have not had a known origin and may be due to certain strains of the gas gangrene organism, *Clostridium perfringens*. This organism is resistant to drying, heating, pasteurization, and freezing, and will survive in chlorinated water. Illness produced by this organism is relatively mild and of short duration, with complete relief from symptoms within 24 hours. Diarrhea, abdominal cramps, and sometimes nausea and headache appear after an incubation period of 6-24

hours. Outbreaks in various areas are described.

Clostridium perfringens is present in all environments, and contamination cannot be avoided. Spores of the most heat-resistant strains may survive boiling water more than 6 hours, and therefore will be present in many cooked foods. No objectionable odors or tastes are produced by this organism. Meat, poultry, and fish products are of special concern in regard to this type of food poisoning, since these foods are likely to be held at intermediate temperatures for prolonged periods and provide ideal media for the growth of *Clostridium perfringens*. In roasting meat, the temperature seldom rises to the boiling point in the center

of the cut. Pieces for roasting should not be larger than 6 lbs. so heat can penetrate quickly and cooling can be rapid if the meat is to be refrigerated. This is especially important for rolled meat as the surface was exposed before rolling. Food should not be prepared far in advance of consumption.

A prime prerequisite to prevention of microbial growth is the maintenance of food, ready for serving, at a temperature over 140°F. or under 45°F.

Keeping foods adequately hot or cold will prevent the germination of all types of spore-forming bacteria, and proper heating will destroy vegetative cells of *Clostridium perfringens*.

Report . . .

THE VANIER INSTITUTE OF THE FAMILY

by MARGARET S. MCCREADY
Macdonald Institute, Guelph

In Ottawa, from October 27 to October 29, 1966, more than its 100 members from all parts of Canada met at the first annual meeting of the Vanier Institute of the Family.

The opening session of the meeting took place at Government House where the members were guests of Their Excellencies, the Governor General and Madame Vanier, at a delightful dinner. During the dinner, they were addressed by the Governor General and Dr. Wilder Penfield, president of the Institute. The aim of the Institute was elaborated and stated as the promotion and strengthening of family life in Canada through education and research.

The major decisions taken at the annual meeting were: two initial surveys to be made, one of Canadian families to ascertain their opinions of family role in our society, followed by a later partial sample of Canadian families' statements regarding family life education as they have encountered or participated in it, in groups or individually; the assembling of a complete library on the

family in Canada with a broad reference file on the present known literature, possibly through the National Library; a specific study on the one-parent family and on other areas requiring study. In addition, it is planned that funds from gifts, grants, and memberships, will enable the awarding of fellowships for scholars in the field, and the promotion of local or regional seminars, as well as national conferences.

Despite a newspaper heading in the press during the annual meeting, "End of family's role forecast by scientists", Their Excellencies charged the members and their associates and friends to watch over what is happening in our family life so that we may be alert to the changing needs of this basic social unit which has such a primary educational influence in our lives. This would seem to be a specific directive to home economists, as well as to all parents and professional groups. There will be an opportunity later for citizens to further the work of the Institute by taking out memberships in it.

Round table discussion groups of the members worked on the principles of the Institute's organization and the role of its membership, and on the specific projects and research which were needed. Members of the Canadian Home Economics Association will be kept informed of developments with the Vanier Institute of the Family.

C.D.A. CONVENTION

The 32nd annual convention of the Canadian Dietetic Association will be held in Ottawa at the Chateau Laurier Hotel from June 12 to June 15.

ISABEL MacARTHUR—Concluded
and in people, is an inspiration to her many friends across Canada with whom she keeps in touch through her delightful letters. These are written from her home at 304-811 Grosvenor Avenue, Winnipeg 9, Manitoba, and her continued interest in her profession

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CANADIAN HOME ECONOMICS JOURNAL

when **a low cholesterol diet is indicated...**

FLEISCHMANN'S 100% CORN OIL MARGARINE OFFERS THESE ADVANTAGES:

the highest ratio of polyunsaturates to saturated
fat of any leading margarine (1.7 to 1)
more than 80% of the fatty acid content is unsaturated
made from pure corn oil only (no mixtures of oils)

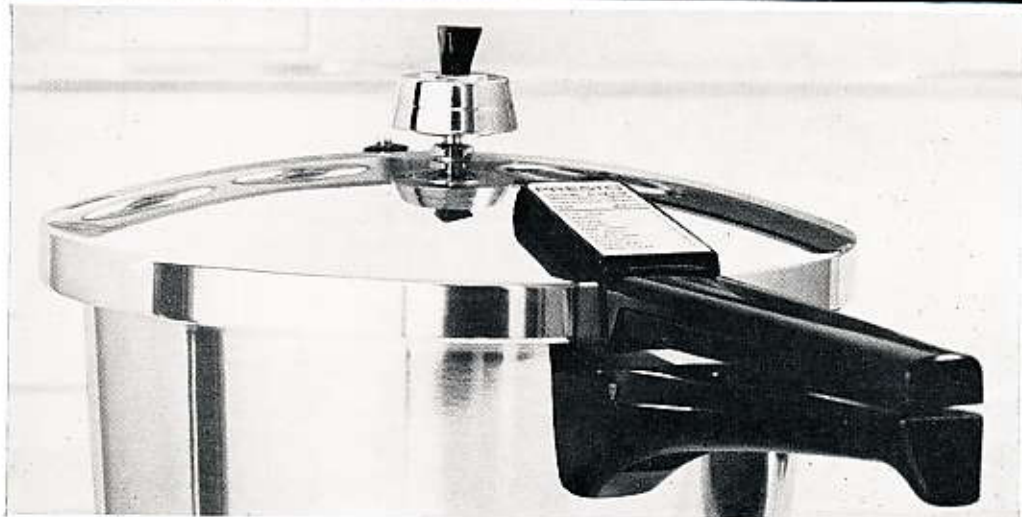
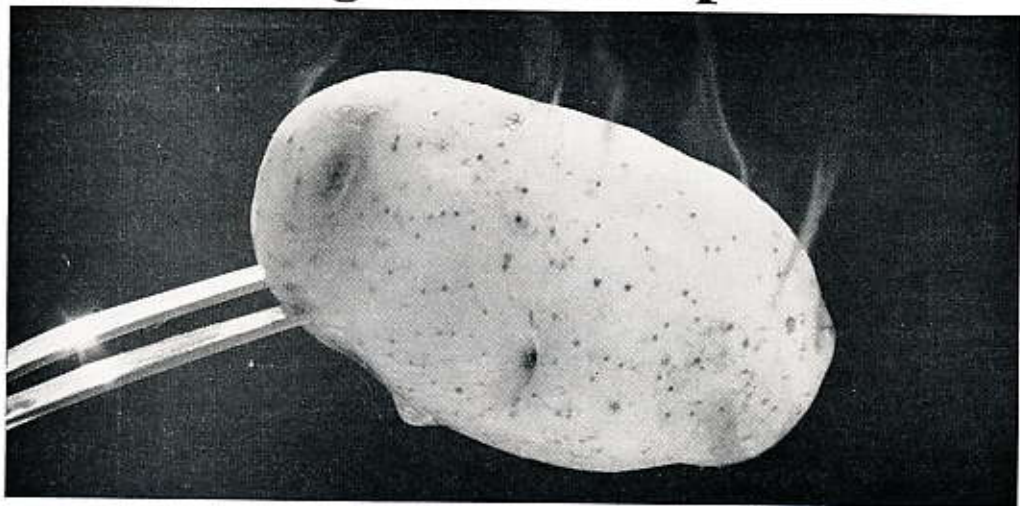
Fleischmann's Margarine contains almost a full cup of liquid corn oil per pound. Because it is made from pure corn oil, it has a light, delicate flavor. And Fleischmann's always spreads smoothly, even when it's

ice-cold. This unique margarine exceeds the requirements suggested by many heart authorities for an acceptable margarine for use in diets to lower serum cholesterol.



Write for the free booklet "Low Cholesterol Recipes" to:
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The eight-minute potato!



And how to make it with your students!

Flavourful eight-minute potatoes, tender three-minute carrots, even turnips cooked to perfection in under five minutes? Until they see it, most of your students won't believe it!

But then, most of them have never used a pressure cooker. And that's a shame, because nothing saves time, nutrition and money like a pressure cooker. And when your students actually see complete meals cooked in mere minutes, instead of several hours, to put it in their language... they'll flip!

Today, there's a new surge of enthusiasm for pressure cooking. And pressure cookers

have changed. The new solid Alcan aluminum Presto for instance is 50% lighter than old post-war models... and 100% safe. The old pressure gauge, that caused trouble when it clogged, has been replaced with a new, one-piece, pressure regulator.

To help you introduce your students to the fast, flavourful world of pressure cooking, Presto is offering a special low price to school boards. In addition, wall charts and other educational material are available too! Write today for complete details.

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